



Australian Government

MARH024 Use of radar and other bridge equipment to maintain safety of navigation

Release: 2

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Modification History

Release 2. This is the second release of this unit of competency in the MAR Maritime Training Package.

- Minor statement changes in unit Application.

Release 1. This is the first release of this unit of competency in the MAR Maritime Training Package.

Application

This unit involves the skills and knowledge required to maintain safe navigation of a vessel through the use of radar, automatic radar plotting aids (ARPAs) and other bridge equipment to determine vessel position.

This unit applies to people working in the maritime industry in the capacity of:

- Master Unlimited
- Master up to 100 metres Near Coastal
- Master up to 500 gross tonnage (GT)
- Watchkeeper Deck.

Licensing/Regulatory Information

Legislative and regulatory requirements are applicable to this unit.

- Regulatory requirements include STCW International Maritime Organization (IMO) model course competencies and areas of knowledge, understanding and proficiency, together with the estimated total hours required for lectures and practical exercises. Teaching staff should note that timings are suggestions only and should be adapted to suit individual groups of trainees depending on their experience, ability, equipment and staff available for training.

Near Coastal Qualifications:

- This unit is one of the requirements to obtain Australian Maritime Safety Authority (AMSA) certification as a Master up to 100 metres Near Coastal as specified in Marine Order 505.

Blue Waters Qualifications:

- This unit is one of the requirements to obtain AMSA certification as a Master of a commercial vessel up to 500 gross tonnage (GT), Master Unlimited or Watchkeeper Deck and to meet regulatory requirements this unit must be delivered consistent with Marine Orders and with the relevant sections of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW).

Training providers seeking to offer this unit of competency must gain AMSA approval before the

unit is offered.

Seafarers seeking certification should check with AMSA.

Pre-requisite Unit

Not applicable.

Competency Field

H – Navigation

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1. Use radar and ARPA to safely navigate

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1 Radar is operated according to manufacturer instructions to produce data on position of vessel, other vessels and fixed objects
- 1.2 Radar plot is constructed on radar plotting sheet and automatic plotting devices are initialised
- 1.3 Systematic radar and/or ARPA observations of vessels in the vicinity are made and risk of collision is determined
- 1.4 Radar data is used to obtain a position fix for vessel using electronic bearing lines and variable range markers
- 1.5 Radar bearings are corrected for vessel heading and compass error, as appropriate
- 1.6 Adjustments are made to vessel course and speed to maintain safety of navigation
- 1.7 Manoeuvring signals are made at appropriate time according to regulations

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| | 1.8 | ARPA information is analysed and interpreted taking into account limitation of equipment and prevailing circumstances and conditions |
| 2 Set up bridge equipment | 2.1 | Bridge equipment is initialised and displays are set up and maintained |
| | 2.2 | Operational performance and accuracy of bridge equipment is confirmed, and appropriate action is taken when performance is out of limits |
| | 2.3 | Bridge navigation watch alarm system (BNWAS) and voyage data recorder are activated according to manufacturer requirements and organisational procedures |
| | 2.4 | Any false echoes and misrepresentations are detected, identified and rejected |
| 3 Use bridge equipment to safely navigate | 3.1 | Bridge equipment is safely and efficiently used to conduct navigation of vessel |
| | 3.2 | Position of vessel is monitored during voyage to ensure planned passage is followed |
| | 3.3 | Movements of vessels in the vicinity are monitored to ensure collision situations do not occur |
| | 3.4 | Adjustments are made to vessel course and speed to maintain safety of navigation |
| | 3.5 | Manoeuvring signals are made at appropriate time according to regulations |
| | 3.6 | Bridge equipment is used and maintained according to manufacturer requirements and organisational procedures |
| 4 Maintain navigational records | 4.1 | Navigational data produced by bridge equipment that should be retained to conform with organisational procedures and regulatory requirements is identified |
| | 4.2 | Navigational data is stored electronically or in hard copy as required by organisational procedures and regulatory requirements |
| | 4.3 | Security and access requirements for data are adhered to according to organisational procedures |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

This unit replaces and is equivalent to MARH010 Use bridge equipment to determine vessel position.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2>